

REMARKS

Entry of this Amendment and reconsideration are respectfully requested in view of the amendments made to the claims and for the remarks made herein.

Claims 1-9 are pending and stand rejected. Claim 2 would be allowable if rewritten to overcome the rejection under 35 USC 112 and USC 101. Claims 3-7 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form.

Claims 1, 3, 7, 8 and 9 have been amended to correct typographical errors and error in form. No new matter has been added.

The claims stand rejected under 35 USC §101 as being directed to unpatentable subject matter.

Applicant respectfully disagrees with, and explicitly traverses the reason for rejecting the claims. The law is clear in that "[w]hoever invents or discovers any new and useful process, machine, manufacture ... or any new and useful improvement thereof, may obtain a patent therefore." 35 USC §101.

Claim 1 recites a new and useful process for determining iteration values for free parameters in a maximum-entropy speech model. Contrary to the position taken in the Office Action, 35 USC §101 does not require that the process must be performed on a computer system. Rather 35 USC §101 merely requires a new and useful improvement.

Whether the process recited in claim 1 is performed by a computer system or by hand calculation, the determination of free parameters in a maximum entropy algorithm produces a useful result. Hence, practicing the steps recited in claim 1 whether by computer system or by hand calculation produces a useful result and such a process is deserving of a patent.

Applicant further notes that the MPEP 2106 II (A) states that to identify and understand any practical application asserted for the invention, "[t]he claimed invention as a whole must accomplish a practical application. That is it must produce a 'useful, concrete and tangible result'" quoting State Street 149 f.3d at 1371. As an example of patentable subject matter, MPEP 2106 II (A) further recites the findings of the Court in

the matter of *AT&T Corp v. Excel Communications, Inc.*, wherein "[c]laims drawn to a long-distance telephone billing process containing mathematical algorithms were held to be directed to patentable subject matter because 'the claimed process applies the Boolean principle to produce a useful, concrete tangible result without pre-empting other uses of the mathematical principle.'" MPEP 2106 II (A).

In this case, the process recited in the claim 1 provides a useful, concrete and tangible result and hence is patentable subject matter.

Having shown that claim 1 includes subject matter that produces a useful result, applicant submits that the reason for the rejection has been overcome and can no longer be sustained. Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

With regard to the remaining independent claims, these claims recite subject matter similar to that recited in claim 1 and were rejected for the same reason used in rejecting claim 1. For the remarks made in response to the rejection of claim 1, which are also applicable in response to the rejection of the remaining independent claims, and reasserted, as if in full, herein, applicant submits that the reason for rejecting these claims has been overcome and the rejection can no longer be sustained. Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

With regard to the remaining dependent claims, these claims ultimately depend from claim 1, which has been shown to be allowable over the reference cited. Accordingly, these claims are also allowable by virtue of their dependency from an allowable base claim.

The claims stand rejected under 35 USC § 112, second paragraph for being indefinite for using the term "orthogonalized" in the claims when such term is generally refers to a zero dot product between vector entities.

Applicant respectfully disagrees with and explicitly traverses the reason for rejecting the claims. As is recited, and defined in claim 6, an attribute function f_{α} is an orthogonalized attribute function f_{α}^{ortho} , which is defined as follows:

$$f_{\alpha}^{ortho}(h, w) = \begin{cases} 1 & \text{if } \alpha \text{ is the attribute with the highest range in } A_i \text{ which} \\ & \text{correctly describes the string of words } (h, w) \\ 0 & \text{otherwise} \end{cases}$$

Similarly, claim 7 defines an orthogonalized boundary value function as:

$$m_{\alpha}^{ortho} = m_{\alpha} - \sum_{(*)} m_{\beta}^{ortho}$$

Applicant submits that an adequate description of the referred to "orthogonalized functions" is provided in the claims and written description to enable one skilled in the art to practice the invention disclosed.

For at least this reason, applicant submits that the rejection has been overcome and can no longer be sustained. Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

The claims stand rejected under 35 USC § 102 as being anticipated by Jochen, P., ("Compact Maximum Entropy Language Model").

Applicant respectfully disagrees with and explicitly traverses the reason for rejecting the claim.

Claim 1 recites a method for determining iteration values for free parameters in a maximum-entropy speech model using a general training algorithm.

Jochen discloses a research regarding the Maximum Entropy Algorithm in speech recognition. Jochen discloses a new smoothing technique of LM-induced marginals and the effect of the inclusion of too many constraints on deteriorating the performance of the model. However, Jochen fails to teach calculating values for free parameters as is recited in the claims.

A claim is anticipated only if each and every element recited therein is expressly or inherently described in a single prior art reference. Jochen cannot be said to anticipate the present invention as Jochen fails to disclose each and every element recited.

At least for this reason, applicant submits that the rejection of the claim has been overcome and can no longer be sustained. Applicant respectfully requests withdrawal of the rejection and allowance of the claim.

With regard to the remaining independent claims, these claims recite subject matter similar to that recited in claim 1 and were rejected for the same reason used in rejecting claim 1. Thus, for the remarks made in response to the rejection of claim 1, which are also applicable in response, and reasserted, as if in full, herein, applicant

submits that the reason for rejecting these claims have been overcome and the rejection can no longer be sustained. Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

With regard to the remaining claims these claims ultimately depend from the independent claims, which have been shown to contain subject matter not disclosed by, and, hence, allowable over, the reference cited. Accordingly, these claims are also allowable by virtue of their dependency from an allowable base claim.

For at least this reason, applicant respectfully requests withdrawal of the rejection and allowance of the claims.

The claims stand rejected under 35 USC § 103 as being unpatentable over Jochen in view of Office Notice.

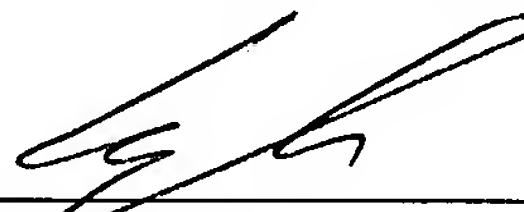
Applicant respectfully disagrees with and explicitly traverses the reasons for rejecting the claims. The rejected claims ultimately dependent from claim 1, which has been shown to include subject matter not disclosed in, and hence, patently distinguishable over the Jochen reference and the Official Notice taken fails to cure the defect in the Jochen reference. Accordingly, these claims are also allowable by virtue of their dependence from an allowable base claim.

Applicant thanks the examiner for the indication of allowable subject matter in claims 2-7. However, for the amendments made to the claims and for the remarks made herein, applicant believes that all the claims are in an allowable form.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

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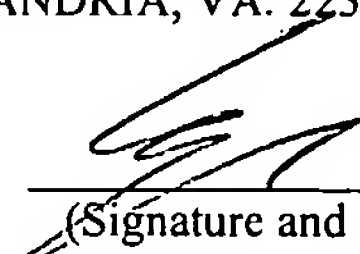
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